ON TWO CASES OF WEIL'S DISEASE COMPLICATED BY THE TEMPORARY APPEARANCE OF SMALL TUMORS IN THE LIVER.

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Small palpable tumors of the liver are found in malignant neoplasms, and more rarely as a result of gummatous changes of this organ. The first end fatally, the latter may be cured by long-continued antisyphilitic treatment; without these measures the latter are also permanent.

A temporary occurrence of tumors in the liver, which disappear again in the course of a few days, has not been mentioned in literature as far as I know. I have, however, observed two such cases, and believe that it would be of interest to describe them here somewhat minutely and to add some remarks.

Case I (*December* 1, 1903).—August R., aged sixty-seven years, has been suffering for many years from his stomach and bowels. His appetite used to be fickle, and he was occasionally troubled with diarrhœa. During the last two or three years the patient was much better; he could eat better, felt stronger, and had a regular action of the bowels. The present trouble began three or four days ago. The patient felt weak, his appetite disappeared, the bowels were constipated, and severe headache was present.

Status Præsens. Pulse, 110; temperature, 101° in the mouth. In the thorax below and behind there are a few dry and moist rales. The hepatic dulness begins in the right mammillary line at the lower margin of the fifth rib, and extends one to two fingers' breadth below the costal margin. By means of palpation two protuberances of walnut size are distinguished in the right lobe of the liver; the liver and these tumors feel harder than normal. The left lobe of the liver is also swollen and sensitive, but does not exhibit any tumors. The spleen is enlarged.

The urine, of a specific gravity of 1023, shows the presence of albumin and casts.

Patient received 15 grains of calomel and was placed upon a strictly liquid diet.

December 2d. Temperature fluctuates between 103° and 104°. Urine contains some bile pigment and a great deal of albumin, no sugar; the diazo reaction is positive; Widal negative.

The patient complains of headache, cough, and weakness. The nervous system is perfectly free. The skin and scleræ are jaundiced, otherwise the condition is the same. Patient is given liquor ammon. anis., and heroin.

Since December 5th the temperature curve ran lower, and on the 8th returned to normal. The liver now shows no tumors, and is less swollen; the urine is free from bile and albumin. The cough disappeared and patient began to feel better and stronger. About fourteen days later the patient was perfectly well.

CASE II. (*April* 26, 1903).—Frederick S., aged about fifty years, was taken sick three days ago with vomiting and diarrhœa, loss of strength, insomnia, and fever. There was absolute anorexia and constant nausea, with frequent vomiting.

When I examined the patient I found a pulse of 100, temperature 102°. His face was flushed, tongue strongly coated; speech indistinct and stuttering; slight tremor in the hands. Color of skin and scleræ is slightly icteric. The abdomen is somewhat distended, the epigastric region markedly sensitive to pressure. The hepatic dulness begins in the right mammillary line at the upper margin of the sixth rib and extends two to three fingers' breadth below the costal margin. The consistency of the liver is harder than normal. On the convex surface of the right lobe there are three hard tumors of the size of a walnut, which can be easily palpated and are sensitive to pressure.

The splenic dulness is considerably enlarged, but the organ cannot be palpated. The urine is strongly concentrated, contains much sugar, albumin, and casts; diazo reaction is strong, and traces of bile are present. The patient complains of severe abdominal pains, vomiting, bad taste in the mouth, and insomnia, as well as of a harassing dry cough. He was given sodium bicarbonate and codein; liquid diet, veronal.

April 27th. Patient has slept, with interruptions; complains of a severe diarrhœa; says the stools smell very fetid. His condition is about the same as on April 26th. Widal reaction and malarial plasmodia are not found. He is ordered codein and tannigen.

30th. Fever is still present, but shows larger remissions. General condition is somewhat better. Objectively we still have the same symptoms of spleen and liver swelling; the urine contains albumin and sugar, but no bile. The diarrhœa has disappeared, vomiting and nausea no longer exist, and the patient can take nourishment better; he has a clear mind and speaks naturally.

May 2d. Temperature reaches only to 100.4°, pulse being 76; the nodes on the surface of the liver are less prominent and not so easily palpated; the liver is less swollen and less sensitive to pressure. Spleen is also smaller, the urine contains no sugar, shows no diazo reaction, but still traces of albumin.

5th. Temperature is normal; the liver projects only a finger's width over the margin of the ribs; the nodes cannot be palpated. The color of the skin is clearer, the splenic enlargement has disappeared, and the patient feels better in general, but is still quite weak. The urine is free from sugar and albumin. He began to be up and about now daily and to take more food. In the course of five to six weeks the patient was completely well.

EPICRITIC REMARKS. Both cases show a marked resemblance in their main features. In both the disease began, after a short prodromal stage, with fever, severe gastric disturbances, and general weakness. During the period of fever which lasted about a week, a marked enlargement of spleen was found as well as of the liver. Albumin was present in the urine, as well as a diazo reaction, and a trace of bile pigment in both, whereas sugar was found only in one case. Both had bronchitis. Cerebral symptoms, insomnia, severe headache, and disturbances of speech (some stuttering) were present in one case but not in the other. Widal's test was negative in both cases, and plasmodia were not found in the blood. After about a week's illness convalescence takes place. The fever and the albumin in the urine disappear; the gastric disturbances abate, and the swelling of the spleen and liver decreases, so that in the course of a few days these organs appear perfectly normal. There remains a condition of weakness which, however, disappears in the course of a few weeks, and the patients are then perfectly well. What is most remarkable in these cases is the fact that during the height of the disease small hard tumors appear on the hepatic surface which again entirely disappear with the abatement of the fever.

The clinical picture of these cases corresponds in the main to the symptom-complex described by Weil,[1] differing, however, from it by the transient formation of nodes of walnut size on the surface of the liver. With regard to the origin of the latter we may assume that this process in the liver is analogous to that of the acute nephritis existing in these cases (as evidenced by the albumin and casts in the urine). In other words, we probably have to deal here with an acute hepatitis with particularly prominent, severely affected, circumscribed foci. These nodes may be caused by an accumulation of exudative products, which again disappear with the subsidence of the inflammation.

Hepatitis resulting in a cure is often encountered. Budd[2] published some observations on this point which were later confirmed by Frerichs.[3] In Budd's book I find the following: "There are probably various morbid states of the secreting substance of the liver in which, as in erysipelas of the face and in the affections of the joints in rheumatic fever, the fluids poured out during the inflammatory process become again absorbed, leaving no permanent traces or only such traces as cannot be well distinguished. In such cases the nature of the morbid process can be judged of by the symptoms only, unless the patient happened to die during the acute state of the malady and while its effects are still present."

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[1] A. Weil. Ueber eine eigenthümliche mit Miltztumor, Icterus und Nephritis einhergehende acute Infectionskrankheit., Deutsches Arch. f. klin. Med., 1886, Bd. xxxix. p. 209.

[2] George Budd. Diseases of the Liver, 1857, p. 167.

[3] Frerichs. Krankheiten der Leber, vol. i.

Further on he says: "I have met with several instances in which enlargement of the liver has come on, and more than one in which jaundice has come on, soon after the disappearance of the rash and scarlatina; but I have never had an opportunity of inspecting the liver in a case of this kind. It is most probable that the disease of the liver is analogous to the disease of the kidney which so often occurs in scarlatina after the disappearance of the rash, and that the enlargement of the liver results from rapid development and shedding of the secreting cells caused by the elimination of some noxious matter through the gland."

The occurrence of palpable tumors (of about the size of a walnut) of the liver, which again disappear with the inflammation, is, however, not mentioned either by Budd or by Frerichs. Nevertheless, I believe that we have to deal here with a similar process.

The fact that distinctly palpable tumors of the liver may occur, existing only a few days in order to disappear again, must be of interest in a high degree, the more so as they cannot be differentiated by palpation from malignant or gummatous tumors. If, therefore, we meet such tumors in a patient suffering from fever, it is best to wait with the diagnosis of cancer or gumma of the liver until further observation permits a definite diagnosis.

VOLUMETRIC DETERMINATION OF THE PURIN BODIES (URIC ACID AND THE PURIN BASES) IN URINE.[1]

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The object of this paper is to describe an exact and clinical method of determining the uric acid and the purin bases in the urine. A great many methods have been devised for this purpose, the simpler ones being, as a rule, inaccurate, and the more exact ones of a complex nature requiring a great deal of time and a degree of technical skill not possessed by the average practitioner of medicine.

All the more exact methods are founded upon the property of uric acid and the purin bases of forming definite compounds with silver in an ammoniacal solution of the latter in the presence of

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[1] Read before the New York County Medical Society, March 28, 1904.